Historic, archived document

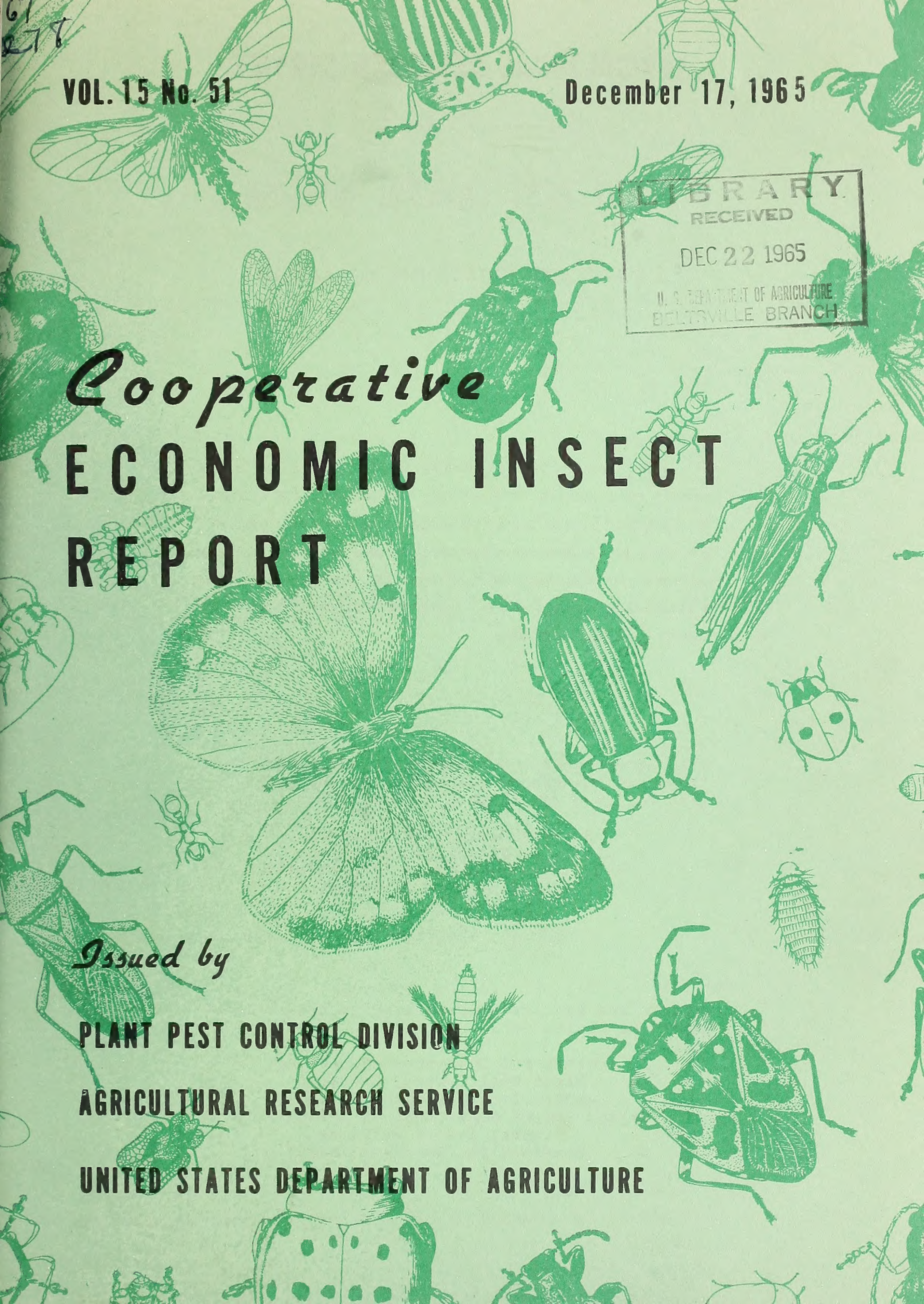
Do not assume content reflects current scientific knowledge, policies, or practices.

61
E78

VOL. 15 No. 51

December 17, 1965

LIBRARY
RECEIVED
DEC 22 1965
U. S. DEPARTMENT OF AGRICULTURE
BELTSVILLE BRANCH



Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

All correspondence pertaining to additions, deletions and changes of addresses for the mailing list for this report should be sent to:

Service Operations Division
Office of Plant and Operations
United States Department of Agriculture
Washington, D. C. 20250

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 December 17, 1965 Number 51

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN ROOTWORM larval survey in southwest Minnesota compares favorably with adult survey conducted in August. SOUTHWESTERN CORN BORER fall survey reported from Missouri. GREENBUG increased on wheat in Oklahoma. (p. 1323). HESSIAN FLY populations considerably higher in volunteer wheat in Kansas than for past several years. SPOTTED ALFALFA APHID heavy on alfalfa in area of Oklahoma and light to medium generally on that crop over New Mexico. (p. 1324).

WOOLLY APPLE APHID very heavy in Bernalillo County, New Mexico. (p. 1324). Larvae of several species of LEPIDOPTERA damaging lettuce in Arizona. (p. 1325).

DETECTION

A GELECHIID MOTH (Platyedra vilella) reported for first time from New Hampshire. New county records were SPRUCE NEEDLE MINER (Taniva albolineana) from Douglas, Ormsby, Elko and White Pine Counties, Nevada. (p. 1326).

ADDITIONAL NOTES

See page 1328.

SPECIAL REPORTS

A Note on the Generic Nomenclature of the Corn Earworm and Its Relatives. (Lepidoptera: Noctuidae). (p. 1328).

Status of the Screw-worm in the Southwest. (p. 1329).

State Survey Coordinators. (Revised December 17, 1965). (pp. 1330-1332).

Reports in this issue are for week ending December 10 unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 13, 1965

HIGHLIGHTS: (1) Warm week most of Nation. (2) Fair, dry beginning; became cloudy, foggy over large areas.

TEMPERATURE: It was a very warm December week with average temperatures 6° to 12° above normal large areas, particularly in the Rockies and in the central third. Only part of California, and some southeastern and extreme eastern areas were even slightly below normal. In some central areas this was the sixth consecutive above normal week and it is evident that the mild temperature patterns of November will continue at least until mid-December. The high pressure and clear skies early in the week gradually gave way to low pressure, cloudiness, and fog by the weekend. Early week daily temperatures ranged widely and the freezing line dipped far southward on several mornings. Tallahassee, Florida, reported 25° Thursday morning and 70° in the afternoon. Temperatures in the 60's reached Kansas and Missouri on several afternoons. Although cooler air moved into central areas on Sunday, temperatures were still not low for the season.

PRECIPITATION: Seasonal precipitation fell in the Pacific Northwest but only in moderate amounts. Low pressure aloft brought substantial amounts to Arizona and southern Utah and heavy rains to parts of southern California with more than 3.5 inches at San Diego. Most of the Rockies and northern Plateau areas received very little. As a moderately deep low moved through the Great Lakes area late in the week, substantial amounts fell in the Mississippi Valley and the Great Lakes, but with lesser amounts in most east coastal areas.

MISCELLANEOUS: With continuing high pressure in the West, fog persisted in the Utah area early in the week. Late in the week, fog and low cloudiness formed over the upper Mississippi Valley to the East coast. Snow, mostly in light amounts, occurred in a narrow band from the Dakotas eastward to New England. Some sleet or freezing rain fell just to the south and occasionally in the Snow Belt. Glaze disrupted power and communication lines in the Dakotas. Persistent fog and occasional slippery conditions slowed travel in the north central and northeastern sections. Snow depths increased mostly in the upper Great Lakes and upper New England and at other mountain locations both east and west. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

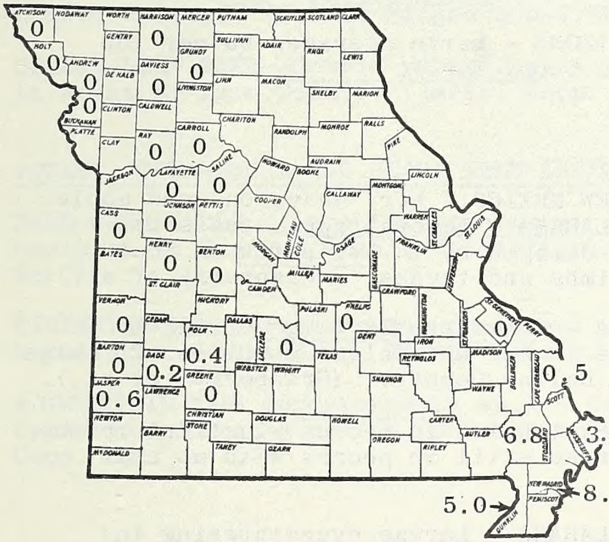
CORN ROOTWORMS (Diabrotica spp.) - MINNESOTA - Larvae collected in 14 southwestern counties during past summer. Larvae kept separate by county; 298 larvae collected and recently determined as to either D. virgifera (western corn rootworm) or D. longicornis (northern corn rootworm). This done as additional check on adult survey conducted during August. (See CEIR 15(36):1030 and 15(35):993-994). Larval collections and adult survey percentages, although not exactly same, compare very favorably. Differences in few county percentages probably due to smaller sample size of larval collections. The following table shows results of larval determinations by county:

County	Percent D. longicornis	Percent D. virgifera
Rock	41	59
Nobles	92	8
Jackson	75	25
Martin	40	60
Pipestone	80	20
Murray	98	2
Cottonwood	50	50
Watonwan	83	17
Lincoln	100	0
Lyon	71	29
Redwood	83	17
Brown	75	25
Yellow Medicine	100	0
Lac qui Parle	100	0

(Minn. Ins. Rpt.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - Fall survey for 1965 completed; 29 counties surveyed. Girdled stalks averaged 0.2 percent in southwest and 4.9 percent in southeast districts, compared with 10 percent in southwest and 18.1 percent in southeast in 1964. No new counties were found infested in 1965. Accompanying map shows percent girdled stalks in counties surveyed. (Houser, Thomas). OKLAHOMA - Averaged 1 live larva per 100 stalks in corn checked in Bryan County. (Okla. Coop. Sur.). ALABAMA - In southern Tuscaloosa County and northern edge of Bibb County, 20 girdled cornstalks contained 20 overwintering larvae; survival 100 percent (McQueen).

Southwestern Corn Borer Survey in Missouri - 1965



GREENBUG (Schizaphis graminum) - KANSAS - Remains low in most areas. No damage reported. (Simpson). OKLAHOMA - Counts increased to 120 per linear foot in wheat in Perkins area, Payne County. Ranged 3-25 per linear foot in Mayes, Delaware, Craig, and Nowata Counties; 3-6 per linear foot in Kiowa, Tillman, Cotton, Grady and Bryan Counties. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Medium to heavy on barley in Artesia area, Eddy County. (Kloepfer). OKLAHOMA - Averaged 50 per linear foot in oats in Washington County; ranged 4-14 per linear foot in wheat in Cotton, Tillman and Bryan Counties. (Okla. Coop. Sur.).

GRAIN APHIDS - NORTH CAROLINA - Damaging small grain around Wilmington in New Hanover and Pender Counties. (Sessions). NEW MEXICO - Rhopalosiphum sp. generally light on wheat in Curry County. (Kloepfer).

HESSIAN FLY (Mayetiola destructor) - KANSAS - Populations considerably higher in volunteer wheat in central and north central districts than past 3-4 years. (Somsen).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Ranged 8-40 per linear foot in wheat checked in Cotton, Tillman and Kiowa Counties; moderate in Kingfisher County. (Okla. Coop. Sur.).

WHEAT CURL MITE (Aceria tulipae) - KANSAS - Trace numbers found in planted wheat; no streak mosaic disease found. (Somsen).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Heavy in Payne County alfalfa; isolated fields sprayed. Averaged 30 per 10 sweeps in Marshall County; moderate in Nowata County. (Okla. Coop. Sur.). NEW MEXICO - Light to medium infestations general in alfalfa throughout State. (N. M. Coop. Rpt.).

PEA APHID (Acyrthosiphon pisum) - OKLAHOMA - Moderate in alfalfa in Nowata and Kingfisher Counties. Averaged 12 per 10 sweeps in Marshall County. (Okla. Coop. Sur.). NEW MEXICO - Light to medium on alfalfa in Chaves, Eddy and Bernalillo Counties. (Kloepfer, Heninger).

ALFALFA WEEVIL (Hypera postica) - OHIO - Adults collected as late as November 26 at Carpenter, Meigs County; averaged 10 per 25 sweeps. (Jordan).

CLOVER LEAF WEEVIL (Hypera punctata) - OHIO - Oviposition noted through end of November in Mahoning County, northeast. (Niemczyk, Flessel).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae still observed in Yuma County alfalfa. Averaged 120 per 100 sweeps in some fields. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larve averaged 80 per 100 sweeps in some alfalfa on Yuma Mesa. (Ariz. Coop. Sur.).

FRUIT INSECTS

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Very heavy on some apple trees in Bernalillo County. (Heninger). ALABAMA - Several apple trees on Tuscaloosa County farm heavily infested and damaged by E. lanigerum on root systems and Aspidiotus perniciosus on all limbs and trunks. (Granberry et al.).

TWIG GIRDLER (Oncideres cingulata) - ALABAMA - Considerable twig cutting by adults observed in 2 separate pecan orchards in Lee and Dallas Counties; 25 twigs counted on and under single 30-foot tree in Dallas County. (Granberry et al.).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Exit holes in pecans plentiful in one orchard in Lee and Dallas Counties. Few larvae still in pecans with no exit holes. (Granberry et al.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Larvae overwintering in shucks of pecans continue heavy under all pecan trees examined, especially in Dallas, Tuscaloosa, Bibb and Lee Counties. (Granberry et al.).

A LEAF ROLLER MOTH (Ptycholoma peritana) - CALIFORNIA - Larvae feeding inside navel orange fruit in Fresno County. This first occurrence of this type injury to oranges in county. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Medium in tomato vines in Fresno, Fresno County. (Cal. Coop. Rpt.).

CELERY LEAF TIER (Oeobia rubigalis) - ARIZONA - Damaging approximately 100 acres of lettuce in areas of Yuma County. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Averaged one larva per 2 heads of cabbage in Robertson County. (Meisch).

CORN EARWORM (Heliothis zea) - ARIZONA - Spotted infestations continue to require controls on Maricopa County lettuce. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Larval migrations increasing in lettuce near nondefoliated cotton. Some damage reported in Yuma County. (Ariz. Coop. Sur.).

A WEEVIL (Hyperodes texana) - TEXAS - Probably this species heavy locally on carrots in Hidalgo County; about 50 percent of plants infested. (Boling).

STRAWBERRY ROOT APHID (Aphis forbesi) - CALIFORNIA - Feeding on leaf petioles and young developing leaf buds of strawberries; plants appear dry and unthrifty in some Fresno County locations. (Cal. Coop. Rpt.).

SPIDER MITES (Tetranychus spp.) - CALIFORNIA - Medium on field-grown tomatoes in Chino, San Bernardino County. T. telarius medium on eggplant at Riverside, Riverside County. (Cal. Coop. Rpt.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate to heavy locally in Burleson County cotton. Weevils ranged 500-2,000 per acre. (Cole).

CELERY LEAF TIER (Oeobia rubigalis) - ARIZONA - Fall infestations found on cotton in areas of Yuma County. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

FALL CANKERWORM (Alsophila pometaria) - WISCONSIN - Females noted on trunks of hawthorn in Madison area. Dissection revealed eggs on December 8. (Wis. Ins. Sur.).

CARPENTERWORM (Prionoxystus robiniae) - CALIFORNIA - Larvae heavy on boxelder locally in Raisin City, Fresno County. (Cal. Coop. Rpt.).

A TORTRICID MOTH (Argyrotaenia sp.) - CALIFORNIA - Larvae medium on azalea and cyclamen nursery stock in nursery in San Francisco, San Francisco County. (Cal. Coop. Rpt.).

SPRUCE NEEDLE MINER (*Taniva albolineana*) - NEVADA - Reported from State for first time in CEIR 15(44):1227; additional locality carried in CEIR 15(45):1245. Since that date, infestations found at following locations: Gardnerville and Minden, Douglas County; Carson City, Ormsby County; Pleasant Valley and Sparks, Washoe County; Elko, Elko County; and Ely, White Pine County. Douglas, Ormsby, Elko and White Pine new county records. Det. by R. C. Bechtel and confirmed by G. T. Okumura. (Bechtel).

A GELECHIID MOTH (*Platyedra vilella*) - NEW HAMPSHIRE - Larvae fed extensively in flowering tips of hollyhock at Portsmouth, Rockingham County, July 26. Also observed boring into stems, flower buds, and feeding on pollen and newly developing seeds. Det. by A. E. Brower. This is a new State record. (Sutherland).

BLACK VINE WEEVIL (*Brachyrhinus sulcatus*) - CALIFORNIA - Larvae heavy on primrose roots and on begonia tubers locally in Arcata, Humboldt County. (Cal. Coop. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (*Scolytus multistriatus*) - TEXAS - Moderate to heavy and widespread on elms in Potter County. (Franks).

A NAUTICAL BORER (*Xylotrechus nauticus*) - CALIFORNIA - Larvae heavy locally in eucalyptus tree bark in Quail Valley, Riverside County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - *Myzus ornatus* heavy on coleus in San Francisco nursery. (Cal. Coop. Rpt.). UTAH - *Pterocomma* sp. abundant on willow trees in St. George-Santa Clara area, Washington County. (Knowlton, Huber). NEW MEXICO - *Cinara tujafilina* light to heavy on arborvitae in Socorro, Valencia and Bernalillo Counties. (Heninger, Mathews). Unspecified species heavy on Arizona cypress in Albuquerque nursery, Bernalillo County. (Heninger). TEXAS - *Cinara* sp. locally heavy on mountain willow in El Paso County. (Dickson). OKLAHOMA - *C. tujafilina* heavy on arborvitae in Stillwater, Payne County; first report of season and about one month earlier than 1964 appearance. *Lachnus salignus* moderate on willows in Garfield County. (Okla. Coop. Sur.). WISCONSIN - *Capitophorus* sp. still active on Russian-olive in Madison area. (Wis. Ins. Sur.).

A COREID BUG (*Jadera haematoloma*) - TEXAS - Occurring on various shade and ornamental trees and shrubs in San Patricio County. (Neuman).

PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) - CALIFORNIA - Medium on pine nursery stock in Marysville, Yuba County. (Cal. Coop. Rpt.).

EUONYMUS SCALE (*Unaspis euonymi*) - NEW MEXICO - Killing some euonymus varieties in Albuquerque area. (Heninger).

EUROPEAN EARWIG (*Forficula auricularia*) - NEW MEXICO - Causing considerable concern in garden plots and yards in Santa Fe, Santa Fe County. (Chavez).

TEXAS LEAF-CUTTING ANT (*Atta texana*) - TEXAS - Locally heavy in Travis and Wood Counties. (Thompson, Meisch).

SPIDER MITES (*Tetranychus* spp.) - OKLAHOMA - Heavy on ornamental junipers in Pushmataha County. (Okla. Coop. Sur.). NEW MEXICO - Medium to heavy on potted scheffleras in Albuquerque. (Heninger). CALIFORNIA - *T. telarius* locally medium on nightshade in Hemet, Riverside County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control contained: *Aedes sollicitans*, *Aedes vexans*, *Anopheles crucians*, *Anopheles quadrimaculatus*, *Culex pipiens quinquefasciatus*, *Culex restuans*, *Culex salinarius*, *Culex territans*, *Culiseta inornata*. Light trap collections showed noticeable decrease due to colder weather. (Stokes).

CATTLE LICE - MARYLAND - Causing some concern in herd of 200 dairy cattle in Carroll County. (U. Md., Ent. Dept.). ALABAMA - Cattle in Marengo and other counties showing signs of infestations of *Bovicola bovis* as winter approaches. (Jones et al.).

FLEAS (*Ctenocephalides* spp.) - OKLAHOMA - Large numbers present in several homes in Payne and Logan Counties. (Okla. Coop. Sur.).

EAR TICK (*Otobius megnini*) - UTAH - Serious problem in many cattle herds in Grand County; less severe in San Juan County. (Knowlton, Argyle).

HOUSEHOLD AND STRUCTURAL INSECTS

INDIAN-MEAL MOTH (*Plodia interpunctella*) - MARYLAND - Moths and larvae evident in homes in Harford and Prince Georges Counties. (U. Md., Ent. Dept.).

A DARKLING BEETLE (*Amphidora nigripilosa*) - CALIFORNIA - Adults heavy in yard and residence in Oxnard, Ventura County. (Cal. Coop. Rpt.).

A COREID BUG (*Arhyssus scutatus*) - CALIFORNIA - Medium adult numbers entered residence in Hollister, San Benito County. Adults of this species and *Liorhyssus hyalinus* heavy around heat ducts and vents in home in Stanford, San Mateo County. (Cal. Coop. Rpt.).

BLACK CARPENTER ANT (*Camponotus pennsylvanicus*) - MARYLAND - Winged forms and workers observed about property in Berwyn Heights, Prince Georges County. (U. Md., Ent. Dept.).

CLOVER MITE (*Bryobia praetiosa*) - MARYLAND - Troublesome in and about homes in Anne Arundel and Carroll Counties. (U. Md., Ent. Dept.). OHIO - Active in homes in Portage and Franklin Counties. (Walker, Delaplane).

STORED-PRODUCT INSECTS

Stored-Product Insects in Oklahoma - Farm-stored grain sorghum checked in Marshall County showed the following counts per quart: *Sitophilus granarius* 23, *Stegobium paniceum* 3, *Tribolium castaneum* 12, *Oryzaephilus surinamensis* 10. (Okla. Coop. Sur.).

Stored-Product Insects in Ohio - Brief survey of grain elevators and feed mills in east central area indicated *Tenebrio molitor* as most common pest. Larval population of *Attagenus piceus* rather large in Champaign County feed mill. Det. by R. P. Holdsworth. *Tribolium confusum* common in different locations. Other pests noted in lesser numbers included spider beetles, *Anagasta kuehniella*, *Sitophilus granarius* and predaceous fly larvae of family Scenopinidae. Populations essentially quiescent, as grain elevators unheated. Insects active in one heated feed mill. (Rose).

MEDITERRANEAN FLOUR MOTH (*Anagasta kuehniella*) - NORTH CAROLINA - Infested stored corn on Hyde County farm. (Westerbeek, Mount).

CIGARETTE BEETLE (*Lasioderma serricorne*) - TEXAS - Heavy in stored sacks of cotton seed meal in Austin County. (Murphy).

A DERMESTID BEETLE (*Trogoderma parabile*) - CALIFORNIA - Larvae heavy in stored rice hulls at mill in Maxwell, Colusa County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

A LADY BEETLE (*Coleomegilla vittigera*) - CALIFORNIA - Adults heavy in rice stubble fields in Durham, Butte County. (Cal. Coop. Rpt.).

Beneficial Insects in New Mexico - Lady beetles, lacewings and damsel bugs generally light in alfalfa over State. (N. M. Coop. Rpt.).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - ALABAMA - Mounds 8-15 inches high numerous in pastures and fields in much of Dallas, Hale, Tuscaloosa, Bibb, and some adjoining counties. (McQueen).

LIGHT TRAP COLLECTIONS

GEORGIA (Tifton, 12/1-8) (Temp. 28-64° F.; precip. 0 in.; blacklight) - *Heliothis zea* 1, *H. virescens* 0, *Protoparce quinquemaculata* 0, *P. sexta* 0.

SOUTH CAROLINA (Charleston, 11/29-12/5) (Temp. 26-65° F.; precip. 0 in.; blacklight) - *Pseudaletia unipuncta* 4, *Spodoptera frugiperda* 3, *Prodenia ornithogalli* 0, *Agrotis ipsilon* 1, *Feltia subterranea* 4, *Peridroma saucia* 0, *H. zea* 7, *H. virescens* 0, *P. sexta* 0, *P. quinquemaculata* 0, *Estigmene acrea* 0, *Trichoplusia ni* 0.

ADDITIONAL NOTES

ARKANSAS - Egg deposition by ALFALFA WEEVIL (*Hypera postica*) underway in northeast area alfalfa. Limited sampling indicates eggs number more than one million per acre. HOUSE FLY (*Musca domestica*) populations persist due to continued mild weather; numbers continue high in rural areas in northwest section of State. Large number of poultry houses in area probably contributing factor. (Ark. Ins. Sur.).

* * * * * * * * * *

A Note on the Generic Nomenclature of the Corn Earworm and Its Relatives. (Lepidoptera: Noctuidae)

David F. Hardwick, Entomology Research Institute, Ottawa, Canada, has published a paper in the Memoirs of the Entomological Society of Canada, No. 40, 1965, titled "The Corn Earworm Complex." In that paper he applies a new generic term, *Helicoverpa*, to the complex. Boursin, 1965, Soc. Linnéenne de Lyon 34(6):186, has synonomized the name to *Chloridea* Westwood, another synonym of *Heliothis* Ochsenhiemer. We are of the opinion that generic separation of the corn earworm complex from the other species of *Heliothis* is unwarranted and we shall continue to utilize *Heliothis* Ochsenhiemer for this important complex of species.

E. L. Todd
Entomology Research Division
Agricultural Research Service
U.S. Department of Agriculture
Washington, D.C.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period December 5-11, a total of 3 cases was reported in the Southwestern Eradication Area; 1 case each was reported from Cameron, Jim Hogg and Presidio Counties, TEXAS. The Republic of Mexico reported 103 cases: Sonora 19, Coahuila 6, Nuevo Leon 8, Chihuahua 16, Tamaulipas 26, Territorio sur de Baja California 28. Sterile screw-worm flies released: Texas 20,285,450, New Mexico 3,360,000, Arizona 7,440,000 and Mexico 65,872,000.

Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
1963	20	6339	104	7222	19.23	87.77
1964	1	237	55	6119	1.81	3.87
1965	3	998	67	4939	4.47	20.20

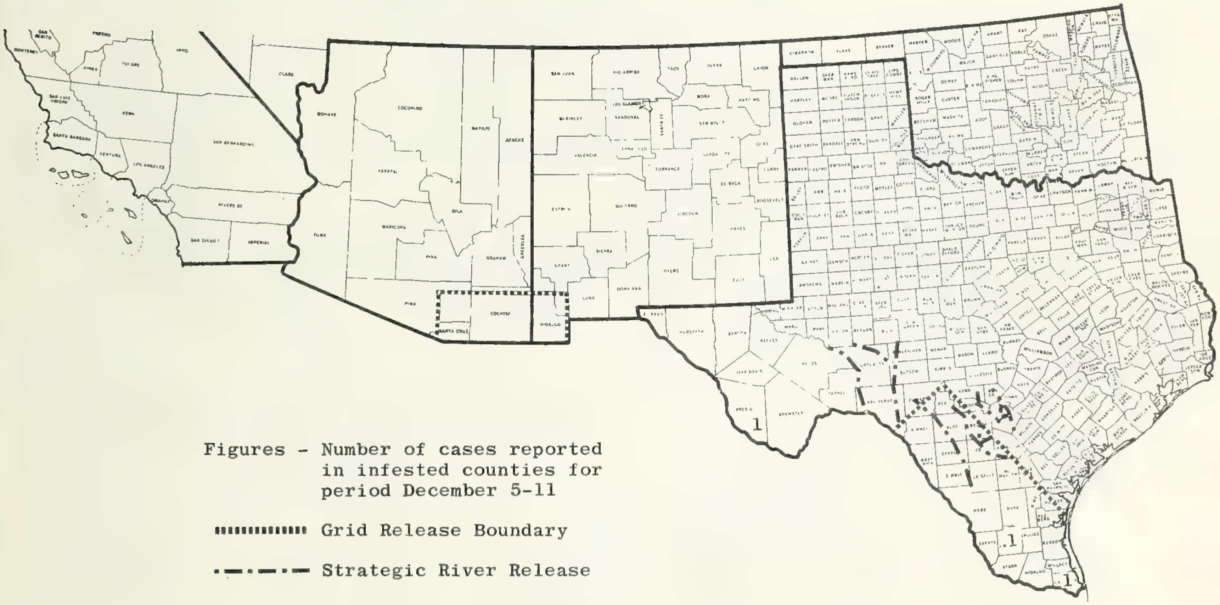
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
1964	138	4269	48	1995	287.50	213.98
1965	106	5508	55	2210	192.72	249.23

Feasibility Survey - During this period, 253 cases were identified in Mexico south of the Barrier Zone, as follows: Jalisco 11, Veracruz 91, Sinaloa 5, Campeche 1, Chiapas 22, Puebla 11, Durango 19, Tabasco 11, Oaxaca 1, Morelos 3, San Luis Potosi 11, Guerrero 22, Michoacan 6, Guanajuato 1, Zacatecas 4, Aguascalientes 1, Nayarit 7, Hidalgo 2, Yucatan 24.

---

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).


1
1
1
Figures - Number of cases reported in infested counties for period December 5-11
Grid Release Boundary
Strategic River Release

STATE SURVEY COORDINATORS

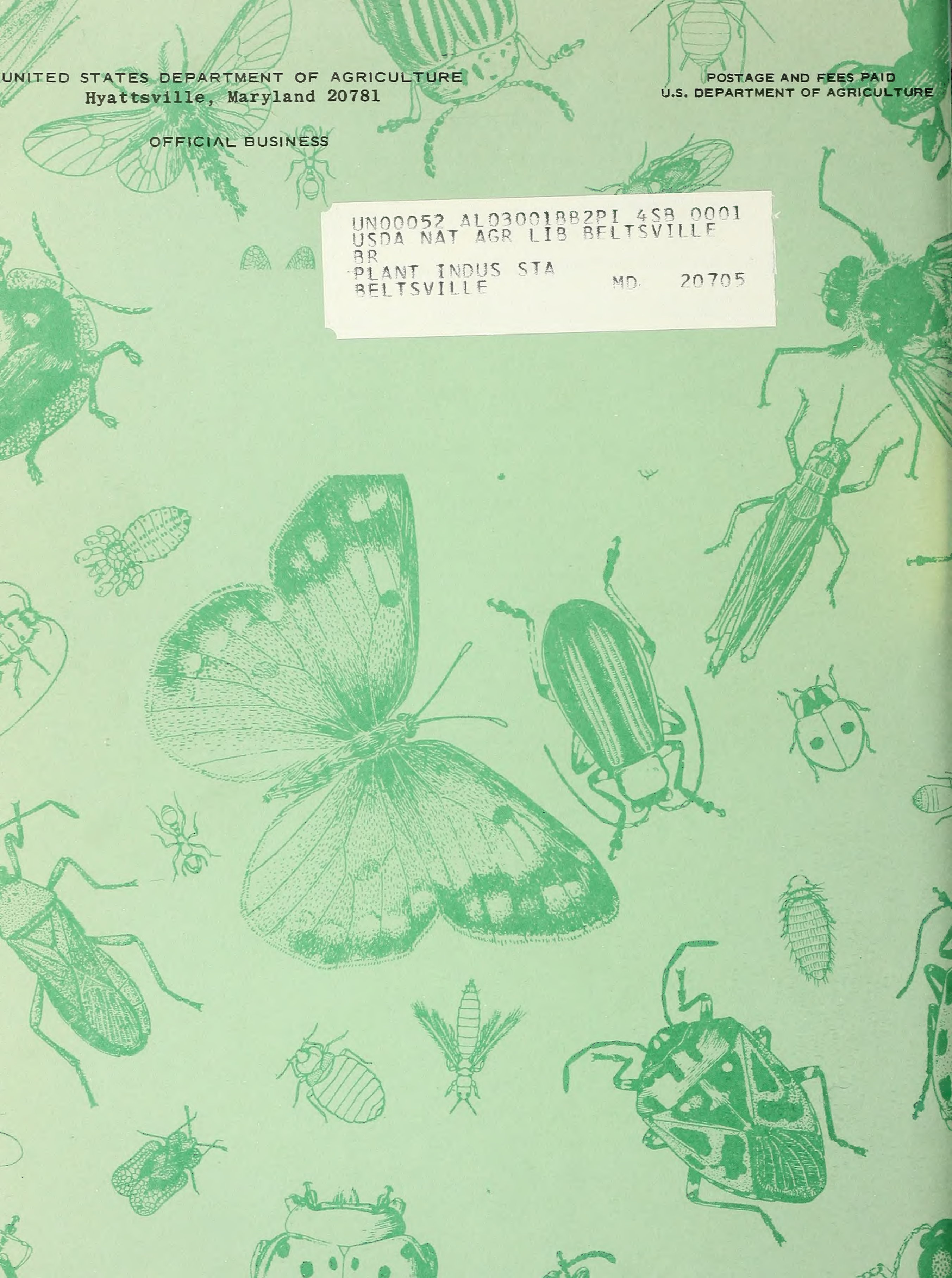
For Economic Insect Survey Reports

Alabama	Dr. F. S. Arant, Head, Department of Zoology-Entomology, Auburn University, Auburn 36830
Alaska	Dr. Richard H. Washburn, Entomology Department, Agricultural Experiment Station, Palmer 99645
Arizona	Dr. J. N. Roney, Extension Entomologist, University of Arizona, 1201 W. Madison Street, P. O. Box 751, Phoenix 85005
Arkansas	Dr. James E. Roberts, Extension Entomologist, University of Arkansas, Fayetteville 72701
California	Mr. R. W. Harper, Chief, Bureau of Entomology, California Department of Agriculture, Sacramento 95814
Colorado	Dr. Leslie B. Daniels, Head, Department of Entomology, Colorado State University, Fort Collins 80521
Connecticut	Mr. J. Peter Johnson, Associate Entomologist, Agricultural Experiment Station, P. O. Box 1106, New Haven 06504
Delaware	Dr. Dale F. Bray, Head, Department of Entomology and Applied Ecology, University of Delaware, Newark 19711
Florida	Mr. H. L. Jones, Director, Division of Plant Industry, Florida Department of Agriculture, P. O. Box 1269, Gainesville 32601
Georgia	Mr. Carl M. Scott, Jr., Director, Division of Entomology, Georgia Department of Agriculture, Capital Square, Atlanta 30334
Hawaii	Hawaiian Entomological Society, Attention: Secretary, 1527 Keeaumoku Street, Honolulu 96822
Idaho	Dr. H. C. Manis, Head, Department of Entomology, University of Idaho, Moscow 83843
Illinois	Dr. H. B. Petty, Jr., Extension Entomologist, Illinois Agricultural Extension Service, 280 Natural Resources Building, Urbana 61803
Indiana	Dr. John V. Osmun, Head, Department of Entomology, Purdue University, Lafayette 47907
Iowa	Dr. Oscar E. Tauber, Acting Survey Coordinator, Chairman, Department of Zoology and Entomology, 253 Science Building, Iowa State University, Ames 50012
Kansas	Dr. Herbert Knutson, Head, Department of Entomology, Kansas State University, Manhattan 66504
Kentucky	Dr. Lee H. Townsend, State Entomologist and Head, Department of Entomology, University of Kentucky, Lexington 40506
Louisiana	Dr. L. D. Newsom, Head, Entomology Research, Louisiana State University, Baton Rouge 70803
Maine	Dr. G. W. Simpson, Head, Department of Entomology, University of Maine, Orono 04473

Maryland	Mr. T. L. Bissell, Extension Entomologist, Department of Entomology, University of Maryland, College Park 20742
Massachusetts	Dr. E. H. Wheeler, Department of Entomology and Plant Pathology. University of Massachusetts, Amherst 01003
Michigan	Dr. Gordon E. Guyer, Head, Department of Entomology, Michigan State University, East Lansing 48823
Minnesota	Dr. D. M. Coe, Director, Division of Plant Industry, Minnesota Department of Agriculture, 670 State Office Building, St. Paul 55101
Mississippi	Dr. J. R. Brazzel, Head, Department of Entomology, Mississippi State University, State College 39762
Missouri	Mr. George Thomas, Extension Entomologist, Department of Entomology, 1-87 Agriculture Building, University of Missouri Columbia 65202
Montana	Dr. J. H. Pepper, Head, Department of Zoology and Entomology, Montana State University, Bozeman 59715
Nebraska	Dr. Roscoe E. Hill, Chairman, Department of Entomology, University of Nebraska, Lincoln 68503
Nevada	Mr. Lee M. Burge, Director, Division of Plant Industry, Nevada Department of Agriculture, P. O. Box 1209, Reno 89504
New Hampshire	Dr. J. G. Conklin, State Entomologist, University of New Hampshire, Durham 03824
New Jersey	Dr. B. B. Pepper, Chairman, Department of Entomology, College of Agriculture, Rutgers University, New Brunswick 08924
New Mexico	Mr. Dallas Rierson, Director, New Mexico State Department of Agriculture, New Mexico State University, University Park 88070
New York	Dr. A. A. Muka, Extension Entomologist, Department of Entomology and Limnology, College of Agriculture, Cornell University, Ithaca 14850
North Carolina	Dr. H. E. Scott, Acting Specialist in Charge, Entomology Extension, North Carolina State University, P. O. Box 5212, State College Station, Raleigh 27607
North Dakota	Dr. J. R. Dogger, Head, Department of Entomology, North Dakota State University, Fargo 58103
Ohio	Dr. Roy W. Rings, Ohio Agricultural Research and Development Center, Wooster 44691
Oklahoma	Dr. D. E. Howell, Head, Department of Entomology, Oklahoma State University, Stillwater 74075
Oregon	Mr. Hugh Taylor, Chief, Division of Plant Industry, Oregon State Department of Agriculture, Agriculture Building, Salem 97310
Pennsylvania	Mr. Stanley Gesell, Extension Entomologist, Agricultural Extension Service, Pennsylvania State University, University Park 16802

Puerto Rico	Agricultural Experiment Station, Rio Piedras 00928
Rhode Island	Dr. F. L. Howard, Head, Department of Plant Pathology and Entomology, University of Rhode Island, Kingston 02879
South Carolina	Mr. W. C. Nettles, Leader, Extension Entomology and Plant Disease Work, Clemson University, Clemson 29631
South Dakota	Dr. R. J. Walstrom, Head, Department of Entomology and Zoology, South Dakota State University, Brookings 57007
Tennessee	Mr. R. P. Mullett, Entomologist and Plant Pathologist, Agricultural Extension Service, University of Tennessee, P. O. Box 1071, Knoxville 37901
Texas	Dr. J. C. Gaines, Head, Department of Entomology, Texas A & M University, College Station 77843
Utah	Dr. George F. Knowlton, Extension Entomologist, Utah State University, Logan 84321
Vermont	Mr. John W. Scott, Director, Division of Plant Pest Control, Vermont Department of Agriculture, Montpelier 05601
Virginia	Dr. J. M. Grayson, Head, Department of Entomology, Virginia Polytechnic Institute, Blacksburg 24061
Washington	Dr. Horace L. Telford, Chairman, Department of Entomology, Washington State University, Pullman 99164
West Virginia	Dr. C. K. Dorsey, Professor of Entomology, West Virginia University, Morgantown 26506
Wisconsin	Mr. Philip W. Smith, Wisconsin Department of Agriculture, Plant Industry Division, Hill Farms State Office Building, 4802 Sheboygan Avenue, Madison 53702
Wyoming	Dr. Robert Pfadt, Head, Department of Entomology, University of Wyoming, Laramie 82071

Revised December 17, 1965



UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

UN00052 AL03001BB2PI 4SB 0001
USDA NAT AGR LIB BELTSVILLE
BR
PLANT INDUS STA
BELTSVILLE MD 20705